WE CLAIM:

1. A solar collector for converting light incident thereon into electrical energy, the solar collector comprising:

an array of a plurality of substrates, each substrate having a photovoltaic cell (PVC) formed on a first surface thereof, the array including at least a first substrate and a second substrate; and

wherein the first surfaces of the first and second substrates are oriented at an angle relative to each other, and the first substrate is oriented to receive light on the first surface thereof such that light reflected from the first substrate is reflected onto the first surface of the second substrate,

whereby an efficiency of the solar collector is increased.

2. A solar collector according to claim 1, wherein the efficiency of the solar collector varies inversely with the angle between the first surfaces of the first and second substrates for angles between 140° and a predetermined minimum angle.

3. A solar collector according to claim 2, wherein the predetermined minimum angle between the first surfaces of the first and second substrates is greater than or equal to 20°.

4. A solar collector according to claim 1, wherein the first surface of the second substrate is also oriented to receive light thereon, and wherein the second substrate is oriented such that light reflected from the second substrate is reflected onto the first surface of the first substrate.

5. A solar collector according to claim 1, wherein the first substrate has an edge proximal to an edge of the second substrate second and to an apex of the angle between the first surfaces of the first and second substrates.

6. A solar collector according to claim 1, wherein the first surface of the first substrate is substantially absent an anti-reflective coating.

7. A solar collector according to claim 1, wherein each of the plurality of substrates in the array further comprises a second surface, and wherein the first surface of each of the plurality of substrates is substantially planar and substantially parallel to the second surface.

8. A solar collector according to claim 1, wherein each of the plurality of substrates comprises a single monolithic PVC formed on the first surface thereof.

9. A solar collector according to claim 1, wherein the PVCs formed on the first surfaces of the plurality of substrates comprise at least two different types of PVCs selected from the group consisting of:

Silicon based PVCs;

Gallium-Arsenide (GaAs) based PVCs;

Aluminum-Gallium-Arsenide (AlGaAs) based PVCs;

Germanium (Ge) based PVCs; and

Gallium Indium-Phosphide (GaInP) based PVCs.

10. A solar collector according to claim 1, wherein the PVCs formed on the first surfaces of the plurality of substrates include at least one PVC comprising a multiple-junction PVC.

11. A solar collector according to claim 1, further comprising an enclosure enclosing the array of the plurality of substrates, the enclosure having inner walls with reflective surfaces to reflect at least a portion of light incident thereon onto the first surfaces of the plurality of substrates.

12. A solar collector for converting light incident thereon into electrical energy, the solar collector comprising:

an array of a plurality of substrates, each substrate having a photovoltaic cell (PVC) formed on a first surface thereof, the array including at least a first substrate, a second substrate and a third substrate; and

wherein the first surfaces of the first, second and third substrates are oriented at angles relative to each other and to a direction of propagation of light incident on the solar collector, such that light reflected from the first substrate is reflected onto the first surfaces of at least one of the second and third substrates,

whereby an efficiency of the solar collector is increased.

13. A solar collector according to claim 12, wherein each of the first, second and third substrates comprise an edge proximal to an edge of at least one other substrate.

14. A solar collector according to claim 13, wherein the first surfaces of the plurality of substrates are shaped and oriented relative to one another such that the first surfaces of the first, second and third substrates form part of a concave inner surface of a polyhedron.

15. A solar collector according to claim 14, wherein the first surfaces of the first, second and third substrates form part of first, second and third inner surfaces of an inverted three sided pyramid.

16. A solar collector according to claim 15, wherein each of the first, second and third inner substrates are shaped to form first, second and third isosceles triangles.

17. A solar collector according to claim 14, wherein the array of the plurality of substrates further comprises a fourth substrate having a PVC formed on the first surface thereof, and wherein the first surfaces of the first, second, third and fourth substrates are oriented at angles relative to each other and to a light ray incident on the first surface of the first substrate such that light reflected from the first substrate is reflected onto the first surface of the fourth substrate.

18. A solar collector according to claim 17, wherein the first surfaces of the second, third and fourth substrates are also oriented to receive light thereon, and the second, third and fourth substrates are oriented such that light reflected from the second substrate is reflected onto at least one of the first surfaces of the first, third and fourth substrates, light reflected from the third substrate is reflected onto at least one of the first surfaces of the first, second and fourth substrates, and light reflected from the fourth substrate is reflected onto at least one of the first surfaces of the first, second and third substrates.

19. A solar collector according to claim 17, wherein each of the first, second, third and fourth substrates comprise an edge proximal to an edge of at least one other substrate.

20. A solar collector according to claim 17, wherein the first surfaces of the first, second, third and fourth substrates form part of first, second, third and fourth inner surfaces of an inverted four sided pyramid.

21. A solar collector according to claim 20, wherein each of the first, second, third and fourth inner substrates are shaped to form first, second, third and fourth isosceles triangles.

22. A solar collector according to claim 14, wherein the array of the plurality of substrates further comprises fourth, fifth and sixth substrates having a PVC formed on a first surface thereof, and wherein the first surfaces of the first, second, third, fourth and fifth substrates are oriented at angles relative to each other substrates form at least part of inner side surfaces of an inverted polyhedron having a pentagonal cross-section, and wherein the sixth substrate forms an inner bottom surface thereof.

23. A solar collector according to claim 12, wherein each of the plurality of substrates comprises a single monolithic PVC formed on the first surface thereof.

24. A solar collector according to claim 12, wherein the PVCs formed on the first surfaces of the plurality of substrates comprise at least two different types of PVCs selected from the group consisting of:

Silicon based PVCs;

Gallium-Arsenide (GaAs) based PVCs;

Aluminum-Gallium-Arsenide (AlGaAs) based PVCs;

Germanium (Ge) based PVCs; and

Gallium Indium-Phosphide (GaInP) based PVCs.

25. A solar collector according to claim 12, wherein the PVCs formed on the first surfaces of the plurality of substrates include at least one PVC comprising a multiple-junction PVC.

26. A solar collector for converting light incident thereon into electrical energy, the solar collector comprising:

an array of a plurality of substrates, each substrate having a photovoltaic cell (PVC) formed on a first surface thereof, the array including at least a first substrate and a second substrate;

an enclosure enclosing the array of the plurality of substrates, the enclosure including a top-wall with a concentrator through which light is passed to at least the first substrate; and

wherein the first surfaces of the first and second substrates are oriented at an angle relative to each other, and the first substrate is oriented to receive light on the first surface thereof such that light reflected from the first substrate is reflected onto the first surface of the second substrate,

whereby an efficiency of the solar collector is increased.

27. A solar collector according to claim 26 wherein the enclosure has inner walls with reflective surfaces to reflect at least a portion of light incident thereon onto the first surfaces of the plurality of substrates.